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Heavy Duty Transportable Chassis Dynamometer Emissions Testing Laboratory

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OBJECTIVES

One of the most promising ways to reduce pollution and to achieve energy security is through the use of alternative fuels, such as compressed or liquefied natural gas (CNG or LNG), methanol, ethanol, biodiesel, propane and others. In order to obtain an unbiased and comprehensive comparison of heavy duty vehicles operating on alternative fuels and diesel fuel, it is necessary to establish a data bank of emissions levels from these vehicles. For this purpose, the Mechanical and Aerospace Engineering Department of West Virginia University is conducting a project, sponsored by the U.S. Department of Energy, Office of Transportation Technologies, to measure heavy duty vehicle emissions.

The objectives of this project are: (1) to gather emissions data from heavy duty vehicles (buses and trucks) operating on alternative fuels and diesel fuel; (2) to provide emissions data to fleet owners and the National Alternative Fuel Data Center (AFDC) that generates a database for public use through the Internet; (3) to study the emissions differences between alternative fuel vehicles and diesel control vehicles; (4) to characterize the typical emissions from different vehicle subgroups in service; and (5) to determine the major factors which may result in high emissions from in-service alternative fuel vehicles.

APPROACH

To pursue the specified objectives, several strategies were employed in this project.